

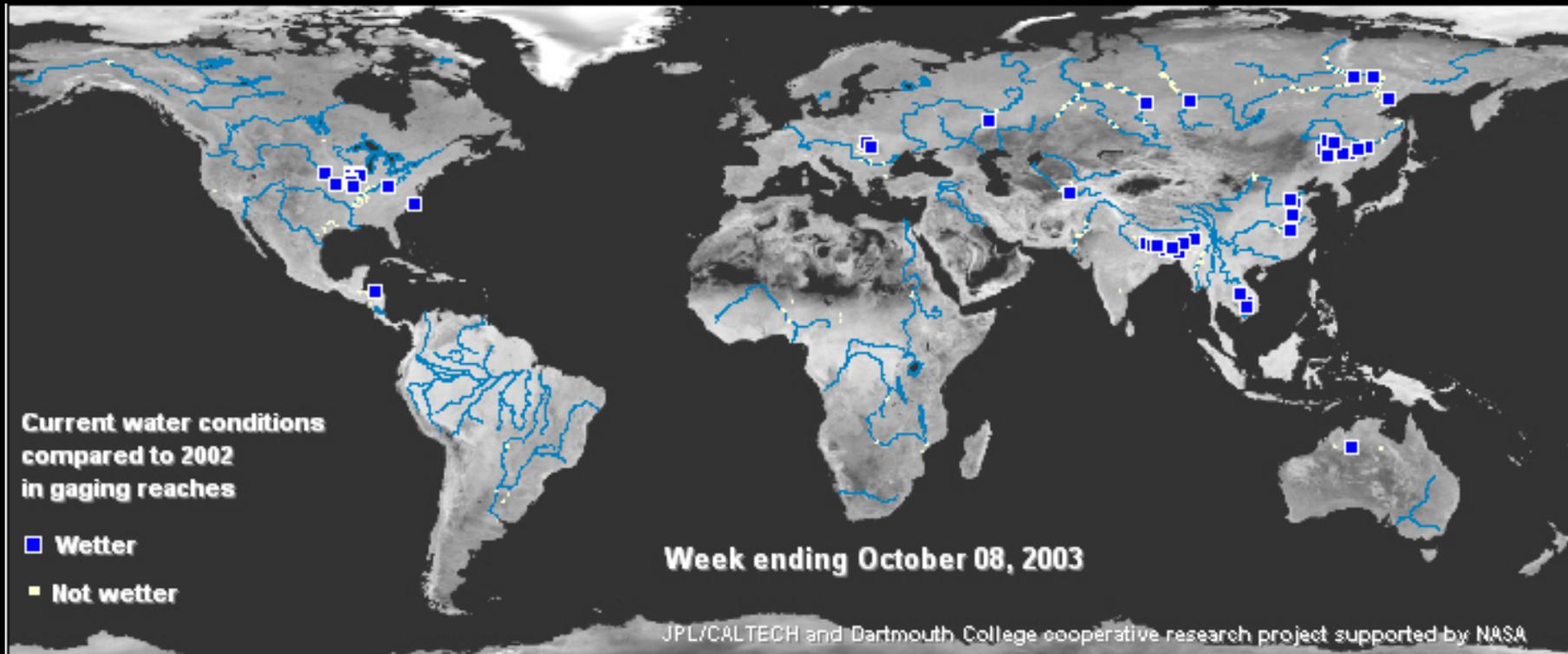


# Flood Sensorweb

Uses Dartmouth Flood Observatory QUIKScat Global Flood Atlas:

B. Brakenridge, Anderson, Ngiem, Caquard, et al., "Flood Warnings, Flood Disaster Assessments, and Flood Hazard Reduction: The Roles of Orbital Remote Sensing," Proc 30th Intl Symp on Remote Sensing of the Environment, Honolulu, HI, Nov 10-14, 2003

# Floods - Detection



## Dartmouth-Flood Observatory QuikSCAT

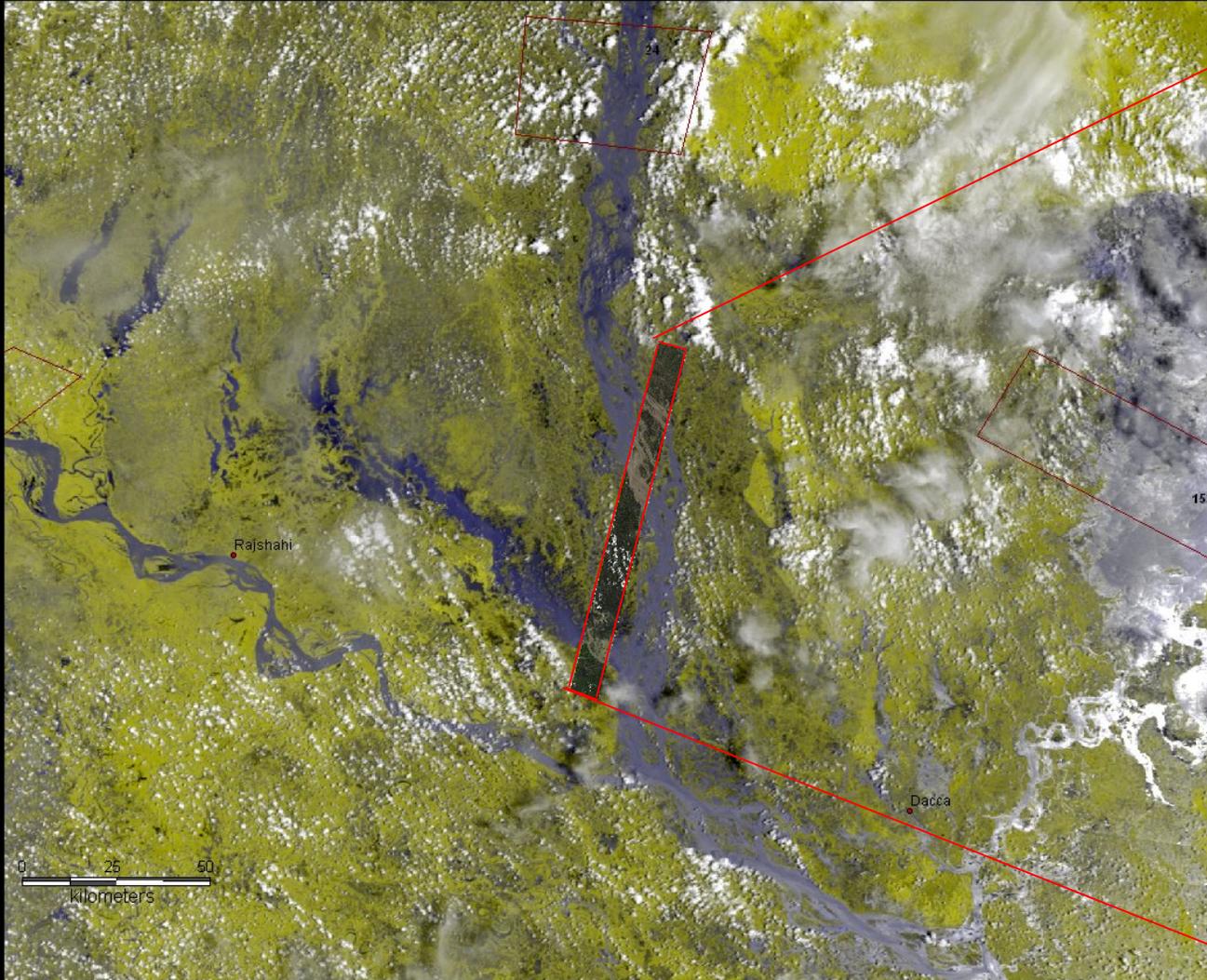
- The DFO in collaboration with JPL/QuikSCAT processes QuikSCAT Scatterometer data to assess surface water conditions.
- VV/HH ratio is used to assess surface water properties of the areas in 0.25 lat/lon degree bins
- The 7 day running mean is used to dampen effects of short-duration rainfall over urban areas.
- This data is then compared to the seasonal (90 day) average of the previous year to screen out wetlands.

POC:  
Brakenridge/DFO  
Ngiem/JPL

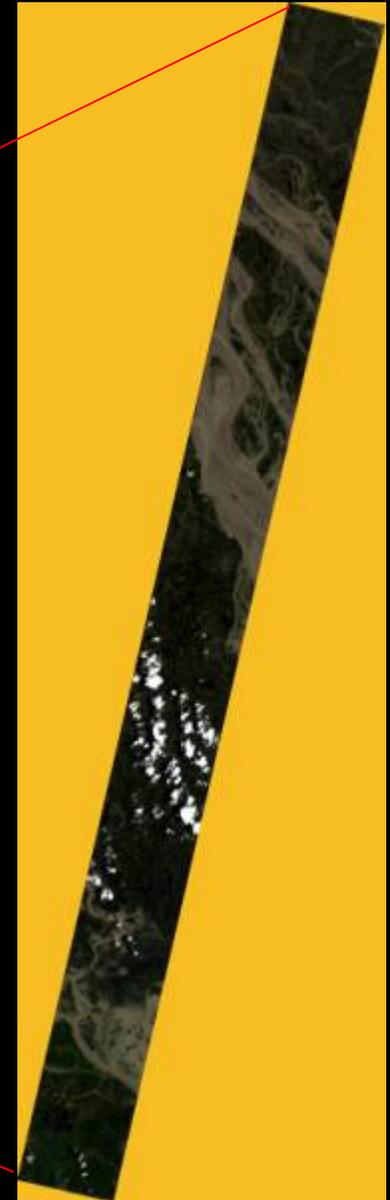
Flood alerts are then used to retask EO-1.

*EO-1 Hyperion Image Brahmaputra Aug 6, 2003*

*MODIS Image Brahmaputra, India Aug 6, 2003*



250M resolution



(10M ALI Pan band possible)

30M resolution

# Impact

Higher resolution data is acquired of:

- *key locations* (pre-determined satellite gauging reaches) and
- *times* (active flooding regions)

With the end result of improved flood science.

# Status - Floods

- September, October 2003 - Several demonstrations performed to track flooding in the Brahmaputra River basin, India
- December 2003 – continued demonstrations to track Yellow River, China

# Volcano Sensorweb

Uses University of Hawaii, Hawaii Institute for Geophysics & Planetology detectors:

Harris, A. et al., (2002) Web-Based Hot Spot Monitoring using GOES: What it is and How it Works, *Advances in Environmental Monitoring and Modelling*  
<http://www.kcl.ac.uk/advances> Vol. 1 No. 3 (2002) pp.5-36

Wright, R., Flynn, LP, Garbeil, H, Harris, AJL, and Pilger, E. (2002). [Automated volcanic eruption detection using MODIS](#). *Remote Sensing of Environment*, 82, 135-155.

Flynn, LP, Wright, R, Garbeil, H, Harris, AJL, and Pilger, E. (2002). [A global thermal alert using MODIS: initial results from 2000-2001](#). *Advances in Environmental Monitoring and Modeling*, 1, 5-36.



# Status - Volcanoes

- Demonstrations in progress using MODVOLC
  - Recent triggers of
    - Kilauea, HI;
    - Belinda, Antarctica
- SGM /GOES & AVHRR linkup in progress
- End impact is
  - larger archive of active volcano remote sensing imagery
  - Increased imagery of early phenomena imagery